

Notice of Allowability

Application No.

10/655,361

Examiner

Deborah Yee

Applicant(s)

CHIKARA KAMI ET AL

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendments and remarks submitted 4-27-05.
2. ☒ The allowed claim(s) is/are 23-25.
3. ☒ The drawings filed on 04 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4-27-05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Before the first paragraph on page 1 of the specification ---This application is a Divisional of 10/031,426 filed January 18,2002 which is a 371 of PCT/JP01/01004 filed February 14, 2001.--- has been inserted.

Allowable Subject Matter

2. Claims 23 to 25 are allowed.
3. The following is an examiner's statement of reasons for allowance: The art of record does not teach or fairly suggest the method of producing a high tensile strength cold rolled steel sheet having a r value of as high as 1.2 or more, and excellent strain age hardenability and natural aging resistance, as claimed, comprising the steps of roughly rolling a steel slab at a temperature of 1000C or more to form a sheet bar, finish-rolling the sheet bar so that the finisher delivery temperature is 800C or more, and coiling the finish-rolled sheet at a coiling temperature of 800C or less to form a hot-rolled sheet; cold rolling and pickling the hot rolled sheet to form a cold rolled sheet; and annealing by box-annealing at recrystallization temperature to 800C, then continuously

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annealing the annealed sheet at an annealing temperature of Ac_1 to (Ac_3-20C) , and then cooling to $500C$ or less at a cooling rate of 10 to $300C/sec$

4. Applicants have discovered that by treating cold rolled steel to the 2-step annealing process, as claimed, formability and strain age hardenability are greatly improved. Note that pages 115 to 116 of applicant's specification discloses that box annealing from the recrystallization temperature to $800C$ is critical to aggregate the ferrite phase structure to increase the r -value, and the continuous annealing from the Ac_1 to (Ac_3-20C) is necessary to ensure production efficiency, fine structure and dissolved N. This 2-step annealing is not taught or suggest by prior art.

5. Moreover, as pointed out in applicant's remarks, prior art does not teach the claimed steel alloy composition wherein the ratio N/Al is not taught or fairly suggest. The N/Al ratio is critical in order to ensure an appropriate amount of dissolved N which is necessary to increase the strain-age hardenability.

6. Applicant has provided comparative test data in Tables 15 to 17 on pages 157 to 160 of his specification to establish criticality for the claimed temperature and alloy ranges.

7. The unapplied references have been cited to further depict the state of the art in cold rolled steel.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Deborah Yee
Primary Examiner
Art Unit 1742

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